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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/028,456	02/24/1998	YASUhide OHASHI	JAO-40656	4717

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EXAMINER

THAI, LUAN C

ART UNIT PAPER NUMBER

2827

DATE MAILED: 06/26/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/028,456

Applicant(s)

OHASHI, YASUhide

Examiner

Luan Thai

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*MC*

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 12 April 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 24, 25, 32-34, 46 and 47 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 25, 32, 33, 46 and 47 is/are allowed.
- 6) ☒ Claim(s) 24 and 34 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### DETAILED ACTION

This Office action is responsive to the amendment filed April 12, 2002.

Claims **24-25, 32-34, and 46-47** are pending in this application.

Claim **35** has been canceled.

#### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claim 34 is rejected under 35 U.S.C. 102(b) as being anticipated by Yamamura et al. (5,334,803 of record) and Lee et al. (5,097,271 of record), separately.

The figures and reference numbers referred to in this office action are used merely to indicate an example of a specific teaching and are not to be taken as limiting.

Yamamura et al. disclose (figures 1-31, specifically figures 15-16) a semiconductor chip 23, comprising: a plurality of signal pads 25-26 electrically connected to leads 7, a plurality of power source and grounding pads 24, being arranged in lines and electrically connected to grounding common lead 27 and power common lead 28, wherein all of pads for signal are disposed in areas closer to edges X-Y (see figure 15) of chip 23.

Lee et al. (see specifically figure 3) also teaches a semiconductor chip 40 comprising: a plurality of signal pads 42-46 arranged in at least one first line; a

plurality of power source ground pads 44 arranged in one second line different from the at least one first line, wherein the signal pads 42-46 are disposed in areas closer to edges of the semiconductor chip than all of the pads for power source ground pads 44 (Col. 4, line 1+).

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yamamura et al. (5,334,803 of record) in combination with Michii (5,252,853 of record) (as set forth in the previous Office Action, paper number 22, and now repeated).

Regarding claim 24, Yamamura et al. disclose all the features of the claimed invention as detailed above except for a flexible substrate having an opening formed therein.

Michii while relates to a similar semiconductor package design teaches (figures 1-4, specifically see figures 2-3) a semiconductor device comprising: a flexible substrate 9 having an opening formed therein, wherein the flexible substrate is used for attaching signal leads 8, a common power source lead 7, and a common ground lead 6 to the semiconductor chip 1, and wherein the middle portions of the common leads 7-8 being continuously positioned inside the opening and the end portions being formed on the flexible substrate. It would

have been obvious to one of ordinary skill in the art at the time the invention was made to apply Michii's teachings to Yamamura et al. device by using a flexible substrate having an opening for attaching the leads to the chip surface and for avoiding the use of the die pad.

***Allowable Subject Matter***

5. Claims 25, 32-33, and 46-47 are allowed.
6. The following is a statement of reasons for the indication of allowable subject matter: the cited arts fail to teach or render obvious the common lead having a middle portion extending from two edges of the opening and continuously being positioned inside the opening without connection to the pads, and end portions of the common lead being formed on the flexible substrate, as recited in claims 25, 32, and 46.

***Response to Arguments***

7. Applicant's arguments filed on April 12, 2002 have been fully considered but they are not persuasive (regarding claims 24 and 34). Specifically,
  - Applicant argues, in page 2 (e.g., the second half of page) of the Remarks, that the Yamamura reference does not disclose pads 25-26 being signal pads, nor pads 24 being power source and grounding pads, as being claimed in claims 24 and 34. The Examiner respectfully disagrees. Yamamura reference does disclose that the common inner leads 27-28 (figure 15) are

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similar to the common inner leads 8-9 (figure 1), which are used to supply voltage and grounding (Col. 4, lines 50+). Thus, pads 24, which electrically connected to common leads 27-28 must be power and grounding pads, and the other pads (25-26), which electrically connect to leads 7 of the device package, are inherent to be signal pads.

### ***Conclusion***

8. Applicant's arguments filed on April 12, 2002 have been fully considered but they are not persuasive (regarding claim 24) and deemed to be moot in view of the new grounds of rejection (regarding amended claim 34). Therefore, **THIS ACTION IS MADE FINAL**. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Luan Thai whose telephone number is (703) 308-1211. The examiner can normally be reached on 7:00 AM - 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David L. Talbott can be reached on (703) 305-9883. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Luan Thai  
June 19, 2002



DAVID L. TALBOTT  
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